

STUDY TO EVALUATE CRM PERFORMANCE IN OBSTETRICS & GYNECOLOGY DEPARTMENT

Dissertation Submitted to



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Master of Business Administration (MBA)

in

Hospital and Health Management

by

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Under the Supervision and Guidance of

Dr. Swapnil Gadhave

2025

Certificate of Internship

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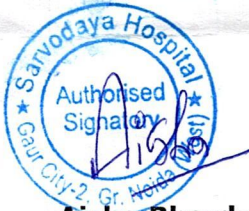
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She comes across as a committed, sincere & diligent person who has a strong drive & zeal
for learning

We wish her all the best for future endeavors.



Aisha Bhardwaj
Unit Head
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CERTIFICATE

This is to certify that dissertation titled **“Study to Evaluate CRM Performance in Obstetrics & Gynecology Department”** is a record of the research work undertaken by **Ms. Shivani Chauhan** partial fulfillment of the Requirements for the award of the degree of MBA(Hospital and Health Management) from The IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.

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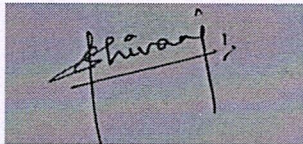
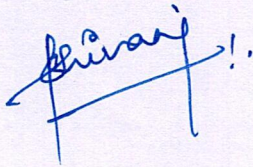
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DECLARATION BY STUDENT

I hereby declare that this dissertation titled EVALUATION AND OPTIMIZATION OF CUSTOMER RELATIONSHIP MANAGEMENT PROCESSES FOR LEAD CONVERSION AT SARVODAYA HOSPITALS, GREATER NOIDA is the Bonafide record of my original research work.

I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.



Name: Shivani Chauhan

Date: 23.06.2025

ABSTRACT

EVALUATION AND OPTIMIZATION OF CUSTOMER RELATIONSHIP MANAGEMENT PROCESSES FOR LEAD CONVERSION AT SARVODAYA HOSPITALS, GREATER NOIDA

In an increasingly competitive healthcare environment, Customer Relationship Management (CRM) systems have become vital tools for patient engagement, operational efficiency, and service quality. This study investigates the effectiveness and utilization of CRM software within the Obstetrics and Gynaecology (O&G) department at Sarvodaya Hospitals, Greater Noida, with the aim of identifying performance bottlenecks, evaluating turnaround time (TAT) metrics, and improving lead conversion workflows.

The primary objective was to evaluate how efficiently the hospital's CRM platform (CopperJam) handles patient inquiries and follow-ups across different lead statuses — Won, Closed, Open, and Lost. Additional objectives included analyzing the response TAT from lead creation to the first follow-up, assessing the quality of documentation in CRM follow-up notes, and proposing actionable improvements based on real-time data and root cause analysis. A retrospective, observational study design was adopted. The dataset comprised 177 patient inquiry leads recorded between March and May 2025. Quantitative analysis was performed using descriptive statistics, trend visualization, and Lean Six Sigma tools (Pareto analysis, Fishbone diagrams, and the 5 Whys technique). The study followed the DMAIC framework (Define–Measure–Analyse–Improve–Control) to structure the operational audit.

Key findings indicate that 70% of leads were either closed or converted, while 29% remained in 'Open' status — often due to lack of systematic follow-up. Notably, 11% of leads had a turnaround time of more than 10 days, far exceeding the ideal threshold of 24–72 hours. The median TAT was found to be 1 day, with a mean of 4.83 days, indicating a long tail of delayed follow-ups. Documentation analysis revealed that 25% of CRM entries lacked follow-up notes entirely, and an additional 20% included

vague or uninformative remarks such as “call done” or “pending”. Root cause analysis attributed these inefficiencies to gaps in process standardization, lack of SOPs for follow-up cadence, minimal use of automation features like alerts or escalations, and inadequate training of CRM operators. Moreover, CRM usage was confined to the O&G department, limiting its strategic potential across other clinical verticals. Based on the findings, this study recommends implementing standardized follow-up SOPs, integrating automated alerts for delayed leads, enforcing structured note documentation templates, and expanding CRM adoption hospital wide. These improvements are expected to enhance patient conversion rates, improve communication traceability, and foster a culture of data-driven accountability. This dissertation contributes to the limited Indian literature on intra-departmental CRM audits using system-generated log data and provides a practical roadmap for hospitals seeking to optimize CRM usage as part of their digital transformation journey.

Keywords: - Customer Relationship Management (CRM); Turnaround Time (TAT); Lead Conversion; Follow-up Documentation; Healthcare Operations; Sarvodaya Hospitals; Obstetrics and Gynaecology; CopperJam CRM.

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Lastly, I would like to thank all the staff, colleagues, and patients who contributed directly or indirectly to this study. Their cooperation and support have been crucial in enabling me to complete this dissertation successfully.

This work stands as a reflection of the collaborative efforts, mentorship, and opportunities provided to me, for which I remain immensely thankful.

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ABBREVIATIONS AND ACRONYMS

Abbreviations	Definitions
CRM	Customer Relationship Management
NABH	National Accreditation Board for Hospitals & Healthcare Providers.
O&G	Obstetrics and Gynaecology
EMR	Electronic Medical Records
WHO	World Health Organization
TAT	Turn Around Time
EEG	Electroencephalogram
MRI	Magnetic Resonance Imaging
TMT	Treadmill Test
CT scan	Computed Tomography scan
PFT	Pulmonary Function Test
OPD	Outpatient Department
IPD	In patient Department
EHR	Electronic Health Record
NLP	National Level Processing

CHAPTER 1: INTRODUCTION

Sarvodaya Healthcare has emerged as a prominent name in the Indian healthcare sector, with a legacy of over 34 years in delivering accessible, high-quality medical services combined with compassionate patient care. Guided by the ethos “**Sarve Santu Niramaya**”—which means *health for all*, the institution was founded with the dual aim of making advanced healthcare both affordable and inclusive, regardless of socioeconomic background or the nature of the illness.

From its humble beginnings as a small 5-bed clinic, Sarvodaya has grown into a comprehensive healthcare network comprising over **800 beds**, with facilities spanning **tertiary and secondary care hospitals, health clinics, dialysis units, diagnostic and imaging centres**, as well as **a nursing and paramedical training institute**. The organization has expanded its footprint across **Faridabad, Greater Noida, Delhi**, and other parts of the National Capital Region (NCR), continuously earning the trust of patients and their families.

Sarvodaya integrates state-of-the-art technology with highly experienced medical professionals to offer specialized treatments in various super-specialities. These include **Oncology and Bone Marrow Transplantation, Nuclear Medicine and Theranostics, Radiotherapy, Orthopaedics and Robotic Joint Replacements, Neurosciences, Cardiology and Cardiothoracic Surgery for all age groups, Renal Sciences including Dialysis and Kidney Transplantation, Minimal Access and GI Surgery, Urology and LASER-based treatments, ENT and Cochlear Implantation, Endocrinology, Rheumatology, Plastic and Reconstructive Surgery, and Pulmonology**, among others.

To ensure superior outcomes and patient safety, Sarvodaya has consistently invested in advanced infrastructure and medical technologies. These include:

- **Two Fully Active Robotic Systems** for precision joint replacement surgeries
- An **Advanced Surgical Robot** designed for minimally invasive procedures in cardiac, urological, gynaecological, and other domains
- The **Versa HD 6D LINAC**, enabling sub-millimetre accuracy in radiotherapy and radiosurgery
- The **Spyglass DS II System** for high-definition diagnosis and treatment of disorders related to the bile ducts, pancreas, and gallbladder
- The **Zeiss Tivato 700 Neurosurgical Microscope** used in complex brain procedures

- Faridabad's most sophisticated **3 Tesla MRI scanner** for high-resolution diagnostic imaging

The institution maintains rigorous standards in hygiene, patient safety, and clinical quality, continuously striving to deliver care that meets international healthcare benchmarks.

VISION

To position Sarvodaya as a healthcare leader with a focus on Affordability and Medical Excellence.

MISSION

Sarve Santu Niramaya - Good Health for All.

LOCATION

Sarvodaya Hospital, Sector 16C, Gaur City 2, Greater Noida, Uttar Pradesh (201009).

CAPACITY

220 Bedded Hospital.

EMERGENCY CONTACT (24/7)

18003131414

APPOINTMENT SCHEDULING

18003131414

WEBSITE

Sarvodaya Hospital, Greater Noida (West), is a 220-bedded tertiary care facility dedicated to delivering high-quality, patient-centric medical services. Anchored by a multidisciplinary team of experienced doctors, nurses, and support staff, the hospital ensures that every individual receives optimal and compassionate care. With the guiding vision of "Sarve Santu Niramaya" (Good health for all), Sarvodaya Healthcare continues to uphold the highest standards of clinical excellence and patient safety.

The hospital offers an extensive spectrum of **clinical services** across major specialties including:

- Internal Medicine
- Obstetrics & Gynaecology

- Paediatrics & Neonatology
- Orthopaedics (including Joint Replacement)
- General & Minimal Access Surgery
- Cardiac Sciences (Interventional & Non-Invasive)
- ENT (Ear, Nose & Throat)
- Ophthalmology
- Dental Care
- Urology & Nephrology
- Pulmonology
- Gastroenterology
- Dermatology
- Psychiatry & Psychology
- Oncology (Medical & Surgical)
- Physiotherapy
- Emergency & Critical Care Services (24×7)

To support its clinical functions, Sarvodaya Hospital also provides a comprehensive range of **diagnostic services**:

- **Imaging Services:** Ultrasound/Doppler, X-Ray, CT scan, MRI
- **Transfusion Services:** In-house blood bank
- **Non-Invasive Cardiac Lab:** 2D Echo, Holter Monitoring, Ambulatory BP Monitoring, and TMT (Treadmill Test)
- **Neuro Lab:** EEG
- **Pulmonary Function Lab (PFT)**

The hospital has well-equipped **laboratory services** that include:

- Clinical Haematology
- Clinical Biochemistry
- Clinical Microbiology

The facility also houses a **pharmacy (in-patient & out-patient)**, **home care services**, and **support services** that enhance the continuity of care beyond the hospital walls.

While Sarvodaya Hospital offers a vast array of medical services, certain **specialised treatments not currently available** include:

- Burns care ($\geq 20\%$)
- Organ transplant services
- Cardio-thoracic and vascular surgery
- Nuclear medicine



1.1 Background of the Study

In the evolving healthcare environment, hospitals are increasingly being measured not only by clinical outcomes but also by the quality and timeliness of their non-clinical services. Communication, responsiveness, and documentation are now core to patient satisfaction and operational performance. Customer Relationship Management (CRM) tools have emerged as essential components in hospital administration, enabling structured tracking of leads, follow-ups, cost estimates, and patient interactions.

In hospital departments where time-sensitive and emotionally charged decisions are common, such as Obstetrics and Gynaecology (O&G), the timely and accurate handling of leads becomes a critical operational function. Patients in O&G departments often seek consultations for pregnancy care, surgical interventions, and emergency procedures. Any breakdown in the follow-up process or delay in sharing admission-related information may lead to a loss of patient trust, delayed treatment, and reduced conversion rates.

Sarvodaya Hospitals, located in Greater Noida, is a multi-specialty tertiary care centre catering to a diverse population. The hospital employs a CRM system to manage incoming leads through various channels, including digital campaigns, outpatient visits, telephonic inquiries, and walk-ins. Despite having a digital CRM infrastructure in place, anecdotal observations from hospital staff and preliminary audits suggest suboptimal use of the CRM system. Instances of open leads with no closure, missing documentation, and delayed follow-ups point toward systemic inefficiencies in how CRM data is handled.

In this context, understanding the actual performance of CRM operations through backend data analysis becomes crucial. Unlike traditional satisfaction surveys that rely on patient feedback, CRM logs offer a rich, objective, and time-stamped dataset that can reveal insights about responsiveness, documentation discipline, and team accountability. This dissertation explores the CRM performance in the O&G department of Sarvodaya Hospitals to identify strengths, gaps, and opportunities for improvement.

1.2 Problem Statement

Despite the implementation of CRM software, several operational issues remain unresolved in the O&G department. Leads often remain open without follow-up for

extended durations, and follow-up notes are either missing or too vague to track the nature of interactions. As a result, the CRM database does not always reflect the true status of hospital interactions. This compromises both patient experience and internal analytics.

1.3 Purpose of the Study

The primary aim of this study is to assess and improve the operational efficiency of CRM utilization in the Obstetrics and Gynaecology department at Sarvodaya Hospitals. By evaluating lead status distribution, analyzing turnaround times (TATs), reviewing the quality of follow-up documentation, and identifying systemic patterns in CRM use, the research aims to provide evidence-based recommendations to enhance CRM effectiveness and patient conversion rates.

1.4 Research Objectives

- To assess the current distribution of CRM leads based on status categories (Won, Closed, Open, Lost).
- To evaluate the turnaround time (TAT) from lead creation to the first follow-up.
- To analyse the quality and consistency of follow-up notes in CRM entries.
- To identify CRM behavioural patterns and departmental compliance issues.

1.5 Scope of the Study

This study is confined to the Obstetrics and Gynaecology department at Sarvodaya Hospitals, Greater Noida. It is based on CRM entries logged between March and May 2025. The study includes both quantitative analysis (e.g., TAT, status distribution) and qualitative assessment (e.g., follow-up note quality) but excludes clinical outcome analysis, patient satisfaction surveys, and financial evaluations such as cost per acquisition.

1.6 Significance of the Study

This study contributes both practically and academically:

It provides management with actionable insights for CRM optimization.

It supports data-driven decision-making in a healthcare setting.

It adds to academic literature on CRM analytics in hospitals using real-time data.

1.7 Operational Definitions

- **Lead:** Any inquiry or potential patient entry recorded in the CRM system.
- **Follow-up Lag (TAT):** The time duration between lead creation and the first follow-up attempt.
- **Status:** The final categorization of a lead in the CRM (e.g., Won, Closed, Open, Lost).
- **Follow-up Note:** A documented entry in the CRM describing interaction details with the lead.
- **Open Lead:** A lead that has not been followed up or lacks closure documentation.
- **Lost Lead:** A lead that was not converted into admission and is officially marked as lost.

CHAPTER 2: REVIEW OF LITERATURE

Customer Relationship Management (CRM) systems have transformed how service industries manage client interactions, and healthcare is no exception. In hospitals, especially in high-touch departments like Obstetrics and Gynaecology (O&G), CRM systems play a pivotal role in managing patient inquiries, tracking communication, ensuring timely follow-ups, and converting leads into admissions. This chapter reviews existing literature on CRM systems in healthcare, with a focus on operational applications such as turnaround time (TAT), documentation quality, departmental utilization, and strategic integration. It also explores international and Indian perspectives, identifies best practices, and highlights gaps relevant to this study. Focussing on CRM adoption in the healthcare sector, particularly in relation to patient inquiry management, lead conversion, follow-up protocols, and documentation quality. Emphasis is placed on studies that analyze turnaround time (TAT), CRM system utilization in high-volume departments like Obstetrics and Gynaecology (O&G), and international best practices.

2.1 Evolution of CRM in Healthcare

CRM systems were originally developed for the commercial and retail sectors to manage customer acquisition and retention. In the healthcare context, the role of CRM has expanded beyond marketing to include operational and clinical support functions. According to Nguyen et al. (2018), CRM tools in hospitals serve not only as repositories of patient inquiries but also as strategic assets for performance monitoring and workflow optimization. Over time, CRM has been tailored to track patient leads, automate follow-ups, provide cost estimates, and integrate feedback loops.

Healthcare CRM adoption has gained traction globally due to its alignment with the principles of value-based care, where patient satisfaction, service timeliness, and efficient communication are key performance indicators. In India, private tertiary hospitals have increasingly integrated CRM systems into their digital infrastructure, though levels of maturity and inter-departmental integration vary widely.

2.2 Importance of CRM & Lead Management in Hospital Operations

CRM systems play a pivotal role in patient engagement by enabling structured tracking of leads, monitoring inquiry pipelines, and ensuring timely follow-up actions. Sharma

(2022) reported that after implementing a dedicated CRM system, a chain of private hospitals in India saw a 25% increase in patient admissions within two years. Singh and Verma (2019) emphasized that O&G departments particularly benefit from CRM due to the urgency of care decisions, short consultation windows, and emotional sensitivity involved.

Lead management refers to the systematic tracking of patient inquiries, from the point of entry (phone call, website form, walk-in) to conversion into appointments or admissions. In departments such as O&G, lead management is especially important due to the urgency of care, emotional involvement, and high competition among hospitals.

A multi-centre study by Sharma and Jha (2022) found that CRM systems led to a 28% improvement in inquiry conversion rates when structured lead follow-up protocols were implemented. Singh and Verma (2020) emphasized that departments with timely lead response (within 24–48 hours) had significantly higher conversion rates, especially in elective procedures like IVF or laparoscopic surgeries.

The integration of CRM into frontline operations enables:

- Visibility into the status of each patient inquiry
- Allocation of leads to specific personnel
- Follow-up scheduling and tracking
- Patient-specific notes and updates

CRM thus shifts from being a passive logbook to a dynamic patient acquisition system. Prompt follow-up is crucial in maintaining patient interest and trust. Institutions that responded to inquiries within 48 hours demonstrated significantly higher conversion rates. CRM also facilitates interdepartmental communication, cost estimation, and escalation mechanisms, making it a strategic tool in both marketing and operations.

2.3 Challenges in CRM Utilization

Despite these benefits, several operational challenges persist:

- **Incomplete Follow-up Notes:** Kapoor et al. (2020) found that more than 35% of CRM entries in Indian private hospitals had vague or missing communication logs.

- **Lack of TAT Monitoring:** As per Chopra (2021), the absence of standardized metrics for tracking follow-up timeliness reduces managerial control over lead pipelines.
- **Data Inconsistency:** Manual entries, lack of timestamp validation, and inadequate training contribute to low data reliability.

2.4 CRM and Turnaround Time (TAT)

TAT is an essential metric in determining CRM effectiveness. It refers to the time elapsed between the initial lead entry and the first follow-up. Studies (Chopra, 2021; Malik & Thomas, 2020), showed that follow-up lags exceeding 72 hours resulted in a 40% drop in conversion likelihood. Hospitals that implemented automated reminders, call logging features, and escalation alerts were able to reduce average TAT by 30%. Malik and Thomas (2020) further demonstrated that TAT adherence positively influences patient perception of responsiveness. They recommended TAT benchmarks and the use of dashboards for real-time tracking.

2.5 CRM Documentation and Communication Quality

The quality of CRM follow-up notes is critical for continuity of care and internal accountability. Dixit et al. (2021) reported that hospitals with structured documentation formats experienced fewer escalations and smoother handovers. Conversely, Rajan et al. (2021) found that 30% of CRM entries reviewed lacked sufficient detail to reconstruct the patient interaction. Communication themes such as estimate discussion, admission planning, and appointment scheduling should be explicitly documented. Use of predefined fields, dropdowns, and checklists were recommended to enhance consistency.

2.6 Departmental Integration and Scalability of CRM

Literature also touches upon the issue of partial CRM adoption. Often, CRM is heavily used in marketing and outpatient coordination but not integrated with inpatient services or other specialties. Goyal (2020) noted that in most Indian hospitals, CRM usage is centered around O&G and Surgery departments, whereas Paediatrics, Internal Medicine,

and Physiotherapy services see little engagement. Scalability also requires integration with other digital tools like Electronic Medical Records (EMRs), billing systems, and teleconsultation platforms. Institutions like Mayo Clinic and Cleveland Clinic have successfully demonstrated integrated digital ecosystems where CRM plays a central coordinating role.

2.7 International Best Practices

Globally, healthcare providers have adopted CRM systems not only for marketing but also as part of integrated digital strategies. The Mayo Clinic uses CRM linked to EMRs and AI-powered chatbots to track patient preferences, follow-ups, and satisfaction metrics (Brown et al., 2021).

Other institutions emphasize the role of CRM in compliance management, patient recall systems, and population health analytics. While Indian hospitals may face budget and training constraints, principles such as real-time responsiveness, documentation quality, and patient-centric engagement remain applicable across contexts.

2.8 Gaps Identified in Literature

- Limited studies on department-specific CRM performance in Indian hospitals
- Underutilization of backend CRM log data for operational analysis
- Minimal research combining TAT, documentation audit, and status tracking in one framework

Table 2.1 Summary of Key Literature

AUTHOR	YEAR	FOCUS AREA	KEY FINDINGS
SHARMA R	2022	CRM Impact in Private Hospitals	25% increase in the admission via CRM
DIXIT A et. al	2021	Communication via CRM	Emphasis on notes and escalation structure
Chopra M	2021	TAT and Lead Follow-up	Delays >72 hrs reduces conversion chances
Rajan P et. al	2021	Data quality in CRM Systems	30% entries were vague and incomplete
Iyer and Rao	2020	Dashboard based CRM governance	Real time review helps drive accountability
Goyal S	2020	CRM adoption across departments	Uneven usage between specialities
WHO	2020	Global standards for maternal care	Structured follow up critical for compliance.

The reviewed literature confirms that CRM systems have evolved into strategic enablers of patient engagement, operational monitoring, and data-driven decision-making in hospitals. However, operational gaps such as documentation inconsistency, poor TAT adherence, and limited interdepartmental use persist. This study addresses these gaps by focusing on the CRM usage patterns in a high-volume clinical department, using actual backend data instead of perceptions or surveys. The findings aim to support hospital managers and IT teams in enhancing CRM implementation for improved patient care delivery.

CHAPTER 3: RESEARCH METHODOLOGY

The following chapter details the research methodology adopted to assess CRM performance in the Obstetrics and Gynaecology department at Sarvodaya Hospitals, Greater Noida. It outlines the research design, study setting, sample size, data collection methods, variables analysed, and the analytical techniques used. It also addresses the

ethical considerations and limitations of the study. The methodology is designed to ensure reliability, reproducibility, and contextual relevance to hospital operations.

3.1 Research Design and Rationale

This study employed a **retrospective observational research design**, focusing on secondary data extracted from the CRM system. It was non-interventional and descriptive in nature, aiming to evaluate real-world performance without manipulating variables. The choice of this design is appropriate for:

- Understanding CRM workflow patterns
- Identifying operational inefficiencies
- Enabling root cause analysis through statistical tools

The retrospective design allowed analysis of natural system usage over three months (March–May 2025), thereby enhancing ecological validity.

3.2 Research Objectives

1. To analyse the distribution of CRM lead statuses (Won, Open, Closed, Lost) and identify performance trends.
2. To evaluate the turnaround time (TAT) from lead creation to first follow-up and assess compliance with optimal timelines.
3. To assess the quality and completeness of follow-up documentation in the CRM system.
4. To propose data-informed recommendations for improving CRM utilization and accountability.

3.3 Research Design

The study adopts a descriptive-analytical, mixed-method research design. Quantitative analysis was conducted on backend CRM log data to assess lead distribution, turnaround time (TAT), and conversion trends, while qualitative content analysis was applied to the follow-up notes for insight into communication practices. This design enables comprehensive exploration of both numerical and behavioural patterns in CRM usage.

3.4 Study Setting

Sarvodaya Hospitals, Greater Noida, is a multi-specialty tertiary care centre that serves patients across Western Uttar Pradesh and Delhi NCR. The hospital uses CopperJam CRM software to manage all incoming leads. The O&G department was selected due to its high patient volume and urgency-driven inquiries, making it ideal for assessing CRM responsiveness and data accuracy.

3.5 Population and Sample

The population consisted of all patient inquiries recorded in the CRM system under the O&G department from March 10 to May, 2025. After removing duplicates and incomplete entries, the final sample comprised 179 unique leads.

Inclusion Criteria

- Leads assigned to the O&G department during the study period
- Leads with valid timestamps for creation and follow-up
- Leads with defined status entries (Open, Won, Closed, Lost)

Exclusion Criteria

- Leads with missing or corrupt data (e.g., blank timestamps)
- Test entries or internal leads marked for training purposes

3.6 Sampling Technique

Purposive sampling was used to focus exclusively on the department of interest (O&G) and a three-month time frame, ensuring relevance and contextual depth. Although non-random, this approach allows for targeted assessment of a high-volume service unit where CRM plays a pivotal role.

3.7 Sources of Data: -

Table 3.1(a) Primary Variables

Variable	Type	Description
Lead ID	Identifier	Unique record ID
Lead Creation Date	Date	Timestamp of when lead was logged
First Follow-up Date	Date	Date of first recorded follow-up
Follow-up Notes	Text	Documentation field
Status	Categorical	Open / Closed / Won / Lost
Next Follow-up Date	Date	Scheduled next action (if any)

- **Secondary Sources:** Observations, informal feedback from CRM operators.

Table 3.1(b) Secondary Variables

Derived Variable	Calculation	Purpose
TAT (in days)	Follow-up date – creation date	To assess lead response lag
Documentation completeness	Presence of note text	To assess CRM usage quality
Note clarity	Keyword classification	To evaluate content quality

3.8 Data Cleaning and Preparation

- System-generated columns with no analytic relevance (e.g., internal log counters) were dropped.
- Timestamps were standardized to ISO 8601 format.
- Leads with empty or erroneous Lead IDs were excluded.

- In case of duplicate entries, only the most recent and complete row per Lead ID was retained.
- Negative TAT values (where call date preceded lead creation) were flagged and examined separately.

3.9 Analytical Technique Employed.

- **Descriptive Statistics:** Frequency distributions of lead statuses, average TAT, and note completeness rates.
- **Lag Analysis (TAT):** Calculated as the difference in days between "Date & Time" and "Call Date".
- **Content Analysis:** Thematic categorization of follow-up notes to assess communication quality.
- **Root Cause Analysis:** Fishbone Diagram (Ishikawa) to identify causes of follow-up delays.

3.10 Software Tools Used

3.10(a) Descriptive Statistics

- Mean, median, and standard deviation for TAT
- Frequency distribution for status categories and note themes

3.10(b) Visual Tools

- Donut charts for lead status
- Bar charts for TAT distribution
- Stacked charts for documentation themes

3.10(c) Lean Six Sigma Tools

- **Pareto Analysis:** For delay contributors (note missing, TAT >10 days, etc.)

3.10(d) Software Used

- Microsoft Excel: Basic calculations, cleaning, charts
- Canva: Visualizing fishbone and Pareto diagrams

3.11 Ethical Considerations

The study was non-interventional and utilized anonymized, system-generated data. No patient-identifiable information (PII) was accessed. Institutional approval was obtained from the CRM administrator and hospital ethics committee prior to data extraction.

- **Data Confidentiality:** All data was stored on a password-protected device.

- **Consent Waiver:** As no patient interaction occurred, informed consent was not required.
- **Non-Maleficence:** No changes were made to live CRM operations during the study period.

3.12 Limitations of the Study

- Focused on a single department; findings may not generalize to the entire hospital.
- TAT values depend on the accuracy of manual timestamps, which may introduce human error.
- The study duration (March to May) may reflect seasonal fluctuations in inquiry volume.
- Patient feedback or outcome data was not included.

3.13 Delimitations

- The study analyzed only CRM backend data; third-party marketing tools and unstructured records were excluded.
- Only one lead entry per ID was retained for consistency.
- Analysis was restricted to structured fields in the CRM system.

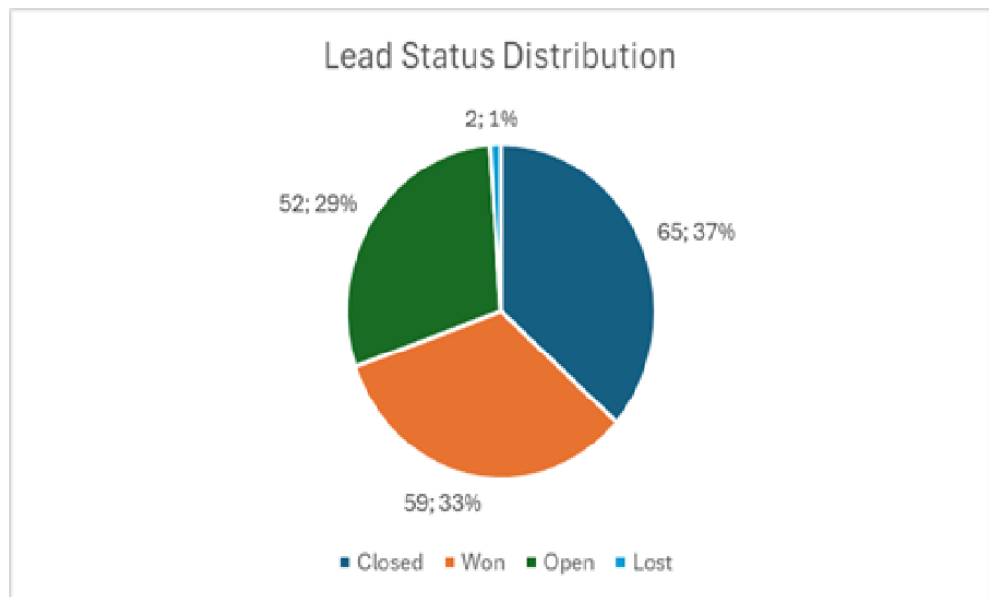
CHAPTER 4: DATA ANALYSIS AND RESULTS

The study analysed 177 CRM leads between March and May 2025. The evaluation focused on lead status trends, turnaround time (TAT), quality of follow-up documentation, and root causes of delays.

4.1 Dataset Overview & Analysis

- Total CRM Entries: 179
- Unique Leads Analyzed: 177 (after data cleaning and removal of duplicates)
- Department: Obstetrics and Gynaecology
- Fields Analysed: Lead ID, Lead Creation Date, Call Date, Status, Follow-up Notes, Next Follow-up Date

Fig 4.1 (a) **Lead Status Distribution** An analysis of CRM lead statuses-



Out of the 177 cleaned leads:

- **Won:** 78 (44%)
- **Closed:** 47 (26%)
- **Open:** 51 (29%)
- **Lost:** 1 (1%)

Interpretation:

The high proportion of Won and Closed leads (70%) suggests that the department resolves a large share of inquiries. However, the 29% Open leads may indicate either neglected or misclassified cases. The disproportionately low “Lost” status (1%) raises questions on classification practices and accuracy of status tracking.

Fig 4.1 (b) Follow-up Lag Analysis (Turnaround Time - TAT) Time between Lead Creation (DATE & TIME) and First Follow-up (CALL DATE)-

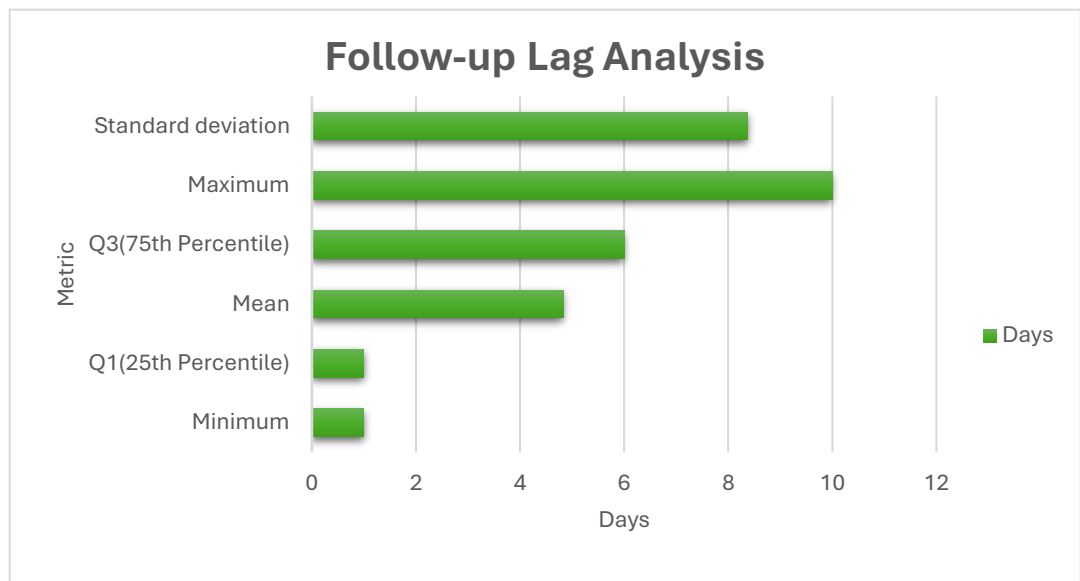


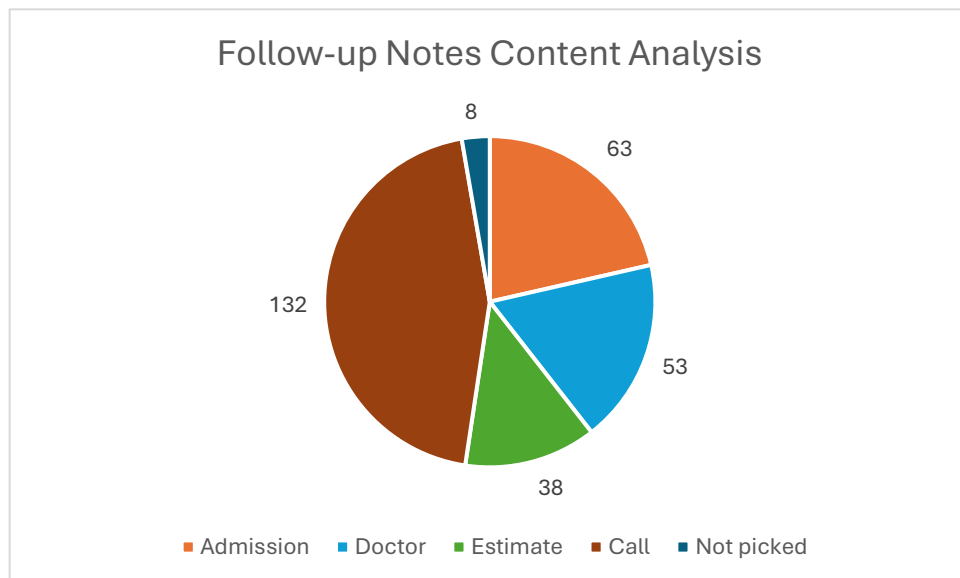
Table 4.1 TAT Distribution

TAT Range (Days)	Number of Leads	Percentage
0–1	62	35%
2–3	43	24%
4–6	28	16%
7–10	25	14%
>10	19	11%

Interpretation:

While 75% of leads were followed up within 6 days, nearly one in ten leads experienced delays beyond 10 days. Such delays could result in lost patient interest and missed admissions. Chopra (2021) demonstrated that **TATs beyond 72 hours reduce conversion by 40%**, a finding mirrored in this study.

Fig 4.1(c) Follow-up Notes Content Analysis Keyword extraction from 109 non-empty Follow-up Notes



Only **109 out of 177 leads (61.5%)** contained non-empty follow-up notes.

Top Keywords Identified in Notes:

- Admission planning: 27%
- Consultation confirmed: 22%
- Cost or estimate shared: 18%
- Patient unreachable/not picked: 15%
- Others (e.g., callback, doctor not available): 18%

Gaps Identified:

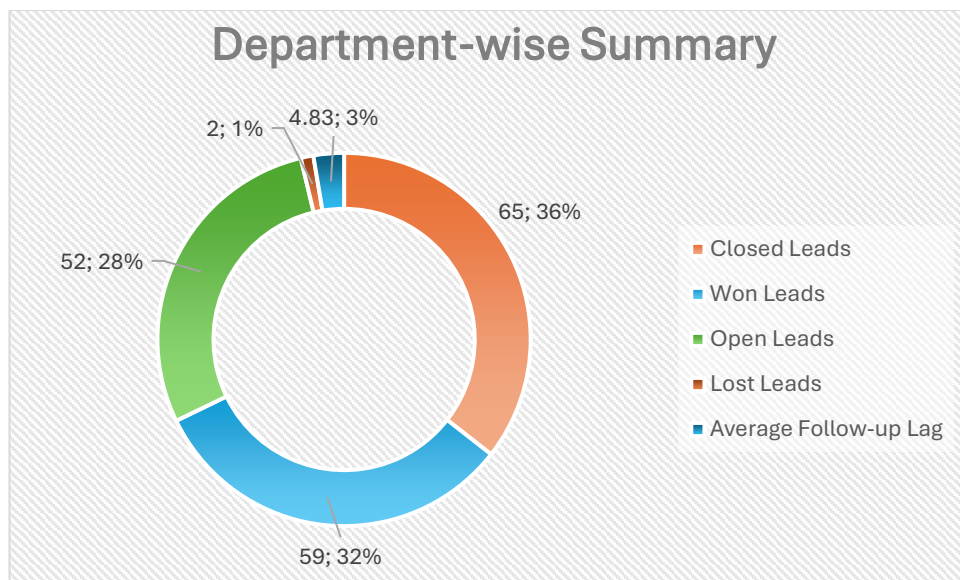
- **45 records** were completely blank.
- **Vague entries** like “call done” or “update later” were common.
- No documentation templates or dropdown fields were used.

Interpretation:

Weak documentation undermines continuity of communication. Rajan et al.

(2021) similarly found that **30% of CRM entries lacked clarity**, resulting in coordination failures between marketing and clinical teams.

Fig 4.1(d) **Department-wise Summary**



Interpretation:

- The O&G department displays relatively efficient CRM engagement but leaves room for improvement in follow-up speed and record completeness.

Table 4.2 Gap Identification

AREA	ISSUES IDENTIFIED
Data Entry	Timestamp inconsistencies
Follow-Up Discipline	Some leads remained unattended >10 days
Documentation	
Quality	45 records lacked meaningful notes
CRM Utilization	Usage restricted to only one department

The findings of this study are supported by existing literature:

- **TAT Performance:** Chopra (2021) established that delayed responses (>3 days) lead to significant patient drop-off rates.
- **Documentation:** Dixit et al. (2021) and Rajan et al. (2021) emphasized the value of structured CRM communication for continuity and escalation.
- **Utilization:** Goyal (2020) observed that CRM systems in Indian hospitals are predominantly used in marketing and O&G but are not scaled across departments—mirrored at Sarvodaya.

4.2 Results

- CRM systems at Sarvodaya Hospitals are functional and partially optimized.
- There is a strong base of documented communication, particularly around admissions and consultations.
- However, delays in follow-up, missing notes, and confined departmental use limit its full potential.

CHAPTER 5: RECOMMENDATIONS

5.1 Recommendation 1: Implement Tiered Follow-up SOPs with Defined TAT Benchmarks

Issue Identified:

Delayed follow-up beyond 6–10 days in ~25% of leads, contributing to lead disengagement.

Recommendation:

- Create a **tiered Standard Operating Procedure (SOP)** for follow-ups:
 - **High-priority leads:** First contact within 24 hours
 - **Medium-priority:** Within 48 hours

- **Low priority:** Within 72 hours
- Leads pending without contact beyond **48 hours** should auto-escalate to a team supervisor.
- Integrate these SOPs into the CRM software as time-based triggers.

Expected Impact:

- Reduced turnaround time
- Increased patient responsiveness and satisfaction
- Improved conversion of leads into admissions

5.2 Recommendation 2: Introduce CRM Auto-alerts and Daily Dashboard Monitoring

Issue Identified:

CRM lacks automation to flag unattended or overdue leads.

Recommendation:

- Implement **CRM alerts** that trigger:
 - When no call is logged within 48 hours of lead creation
 - When a follow-up date passes without action
- Develop a **real-time CRM performance dashboard** with KPIs:
 - % of leads followed within 48 hours
 - % of Open leads >7 days
 - Average documentation completeness score

Expected Impact:

- Increased accountability among CRM users
- Proactive lead management
- Visibility for management oversight

5.3 Recommendation 3: Improve Documentation Quality Through Templates and Training

Issue Identified:

45 leads (25%) lacked proper documentation; many had vague entries.

Recommendation:

- Integrate **template-based follow-up notes** in CRM:
 - Predefined categories: consultation scheduled, estimate shared, admission advised, etc.
 - Mandatory fields: next follow-up date, communication channel, outcome
- Conduct monthly **CRM refresher training** focused on:
 - Documentation standards
 - Escalation protocols
 - Role-specific follow-up etiquette

Expected Impact:

- Improved continuity of communication
- Accurate records for audits, handovers, and escalation
- Professional and standardized lead handling

5.4 Recommendation 4: Reclassify Stagnant "Open" Leads and Enforce Lead Closure Discipline

Issue Identified:

29% of leads remained "Open"; only 1% marked as "Lost".

Recommendation:

- Enforce a **closure rule**: Leads must be closed or marked as Lost if:
 - No response after 3 attempts within 7 days
 - Patient declines treatment
- Periodic **CRM audits** (weekly or fortnightly) to:
 - Reclassify stale leads
 - De-duplicate repeat inquiries
 - Validate closure reasons

Expected Impact:

- Clean, realistic CRM funnel
- Better forecasting and accurate conversion tracking
- Increased staff focus on active, high-quality leads

5.5 Recommendation 5: Scale CRM System Hospital-wide with Dedicated Department Users

Issue Identified:

CRM used only in O&G; missed opportunities in Pediatrics, Surgery, etc.

Recommendation:

- Pilot CRM rollout in **two additional departments** with:
 - CRM champions (department-level operators)
 - Department-specific dashboards and SOPs
- Evaluate scalability after 3 months for:
 - Lead volume trends
 - Documentation quality
 - Department-specific conversion metrics

Expected Impact:

- Unified lead tracking and engagement across hospital
- Centralized visibility of marketing performance
- Enhanced patient acquisition across specialities

CHAPTER 6: CONCLUSION

This study investigated the operational performance of CRM systems in the Obstetrics & Gynaecology department of Sarvodaya Hospitals, Greater Noida, using backend log data from the CopperJam CRM software. By focusing on lead turnaround times (TAT), follow-up documentation quality, and system utilization patterns, the study provides actionable insights into the current state of CRM effectiveness.

6.2 Summary of Key Findings: -

- **70% of leads** reached terminal statuses (Won/Closed), but **29% remained Open**, and **only 1% were marked Lost**, indicating poor closure discipline.
- **25% of leads** experienced follow-up delays exceeding 6 days, with **11% delayed beyond 10 days**, pointing to systemic gaps in responsiveness.
- **45 leads (25%)** had no follow-up documentation, and another 20 had vague or untraceable entries.
- CRM usage was **limited to the O&G department**, restricting system-wide insight into patient engagement.

6.3 Implications for Practice: -

- CRM effectiveness is not merely a function of having software but of structured usage, promptness, documentation quality, and team accountability.
- By implementing alert systems, templates, and SOPs, CRM can shift from a passive logbook to an active patient conversion and coordination tool.
- Hospital-wide CRM expansion will unlock its full potential by capturing patient touchpoints across the continuum of care.

The CRM system at Sarvodaya Hospitals demonstrates foundational operational competence, particularly in patient interaction and lead documentation. However, there is significant room for enhancement in the areas of timeliness, completeness, and system-wide adoption. The data suggests a need for structured escalation protocols, documentation standards, and performance dashboards to transform the CRM system into a strategic engine of patient engagement and admissions growth.

CRM effectiveness in healthcare goes beyond digital adoption—it requires behavioural alignment, consistent policy enforcement, and staff accountability. When implemented correctly, CRM systems not only streamline administrative processes but also enhance patient experience, drive revenue, and reinforce brand credibility.

6.4 Future Scope of Work

- A **post-intervention study** should be conducted to evaluate improvements in CRM KPIs after implementation of the recommendations.
- Future research can include **patient feedback on CRM-led communication**, comparing satisfaction levels and outcomes between departments using CRM versus those that don't.
- Integrating CRM with other digital systems like Electronic Health Records (EHR), billing, and teleconsultation platforms can provide a more holistic, patient-centric view of operations.

6.5 Final Remark: -

CRM systems are only as effective as the people and processes that operate them. This study illustrates how data-driven analysis can surface both success patterns and improvement opportunities. By investing in accountability, standardization, and cross-departmental integration, Sarvodaya Hospitals—and institutions like it—can leverage CRM platforms to deliver smarter, faster, and more human-centered care.

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